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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/646,923

08/25/2003

Hong-gie Hwang

1293.1884

1952

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EXAMINER

FLORES RUIZ, DELMA R

ART UNIT

PAPER NUMBER

2828

MAIL DATE

DELIVERY MODE

08/09/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/646,923

Applicant(s)

HWANG, HONG-GIE

Examiner

Delma R. Flores Ruiz

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-34 is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 5,6,11-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

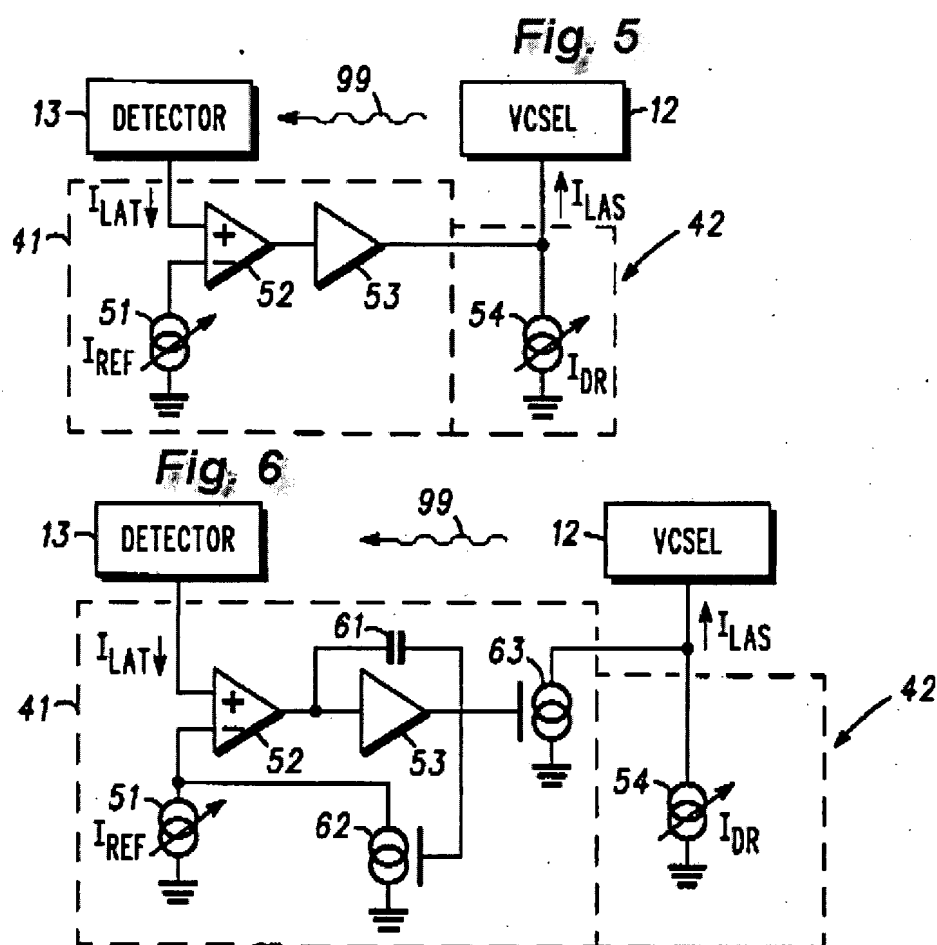
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 7 and 9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kiely (6,151,344).

**Regarding claim 1**, Kiely shown Figures 5 and 6, discloses a method of automatically controlling an output power of a laser diode (see Figs. 5 and 6, Character 12, the reference call "VCSEL"), the method comprising: generating an error voltage between an output voltage of the laser diode sampled during an automatic power control period (see Figs. 5 and 6, Character 13) and a reference voltage (see Figs. 5 and 6, Character 52); proportional integral control (see Fig. 6 Characters 53 and 61, Column 6, Lines 39 –42) and the error voltage to generate a compensated control voltage (it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from

a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987)) and applying the compensated control voltage to the laser diode (see Fig. 5 and 6, Character 12, the reference call "VCSEL").



**Regarding claim 3,** Kiely shown Figures 5 and 6, discloses a compensated control voltage applied to the laser diode is an effective control voltage within a predetermined range (see Figs. 5 and 6, Character 13).

**Regarding claim 7,** Kiely shown Figures 5 and 6, discloses a computer readable medium having embodied thereon a computer program for automatically controlling an output power of a laser diode comprising: generating an error voltage between an output voltage of the laser diode (see Figs. 5 and 6, Character 12, the reference call "VCSEL") sampled during an automatic power control period (see Figs. 5 and 6, Character 13) and a reference voltage (see Figs. 5 and 6, Character 52); proportional integral control (see Fig. 6 Characters 53 and 61, Column 6, Lines 39 –42) and the error voltage to generate a compensated control voltage (it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987)) and applying the compensated control voltage to the laser diode (see Fig. 5 and 6, Character 12, the reference call "VCSEL").

**Regarding claim 9,** Kiely shown Figures 5 and 6, discloses an apparatus to automatically control an output power of a laser diode, the apparatus comprising: an error voltage generation unit generating an error voltage between an output voltage of the laser diode (see Figs. 5 and 6, Character 12, the reference call "VCSEL") sampled during an automatic power control period (see Figs. 5 and 6, Character 13) and a reference voltage (see Figs. 5 and 6, Character 52); and a control voltage generation unit performing proportional integral control (see Fig. 6 Characters 53 and 61, Column

6, Lines 39 –42) and the error voltage to generate a compensated control voltage (it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987)) and applying the compensated control voltage to the laser diode (see Fig. 5 and 6, Character 12, the reference call “VCSEL”).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiely et al (6,151,344) in view of Woodley (2003/0179787 A1).,

***Regarding claims 4, 8 and 10*** Kiely shown Figures 5 and 6, discloses a method of automatically controlling an output power of a laser diode (see Figs. 5 and 6, Character 12, The reference call “VCSEL”), the method comprising: generating an error voltage between an output voltage of the laser diode sampled during an automatic

power control period (see Figs. 5 and 6, Character 13) and a reference voltage (see Figs. 1, Character 52); proportional integral control (see Fig. 6 Characters 53 and 61, Column 6, Lines 39 –42) and the error voltage to generate a compensated control voltage (it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987)) and applying the compensated control voltage to the laser diode (see Fig. 5 and 6, Character 12, the reference call “VCSEL”).

Kiely discloses the claimed invention except for analog to digital converter and digital to analog converter. Woodley teaches providing his device with an analog to digital converter and digital to analog converter. However, it is well known in the art to apply the analog to digital converter and digital to analog converter as disclosed by Woodley in (see Fig. 3). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was to apply the well known analog to digital converter and digital to analog converter as suggested by Woodley to the laser of Kiely, because could be use the ADC to convert the laser beam to digital signal to the processor can process the information and could be use the DAC to convert the digital signal to the analog signal to can make a feedback in this device to see (see Fig. 3) of Woodley.

***Allowable Subject Matter***

Claims 5, 6, 11 – 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 18 – 34 are allowed.

***Response to Arguments***

Applicant's arguments with respect to claims 1 and 3 – 34 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delma R. Flores Ruiz whose telephone number is (571) 272-1940. The examiner can normally be reached on M - F.



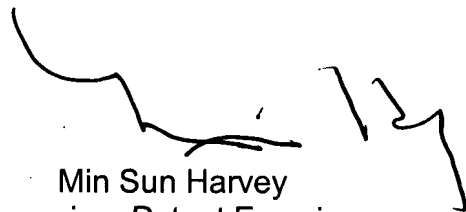
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Sun Harvey can be reached on (571) -272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Delma R. Flores Ruiz  
Examiner  
Art Unit 2828  
DRFR/MH



Min Sun Harvey  
Supervisor Patent Examiner  
Art Unit 2828  
June 22, 2007